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10/563,305	01/04/2006	Takeshi Watase	282051US0PCT	8356

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EXAMINER
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ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/563,305	WATASE ET AL.	
	Examiner	Art Unit	
	FRANK D. DUCHENEAUX	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8,11-15 and 22-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-8, 11-15 and 22-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner's Note

The examiner acknowledges cancellation of claim 2 and the addition of new claims 22-24 in the amendment dated 8/27/2009.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 1 and 4** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner acknowledges the applicants' assertion in regards to support for the amendments on page 12 of applicants' remarks dated 8/27/2009. However, the recitation of a "solid...magnetic coating film" does not find support in the original application as filed and as such, constitutes new matter.

3. **Claims 5-6** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner acknowledges the applicants' assertion in regards to support for the amendments on page 12 of applicants' remarks dated 8/27/2009. However, the recitation of a "solid...magnetic coating film" does not find support in the original application as filed and as such, constitutes new matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1 and 4** are rejected under 35 U.S.C. 102(b) as being anticipated by Hosoe et al. (US 2003/0094076 A1).

Regarding claims 1 and 4, Hosoe teaches alloy powders and products applying said powders (title) comprising a dispersion of 50 weight % in solids of a Ni-Fe alloy powder in water dispersible polyester (para 0078), said dispersion coated onto inner parts of frames (metal sheet) of notebook personal computers and after drying (solid), said coating achieved a film thickness of 30 μm (para 0084-0086). Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further

having high conductivity (para 0029; see also para 0005) and said polyester is a polyester resin (resin coated) serving as a binder (para 0045-0046).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claims 5-6, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (at least one surface) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % and that an amount less than 10% results in the effect of the filler not being obtained while an amount above 50%, the workability is diminished (page 25, para 3-8). Watase is silent to a magnetic powder being a soft magnetic ferrite powder and a total content of the electrically conductive additive and the magnetic powder is from 30 to 60 mass %.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, *inter alia,* polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36). Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, *inter alia*, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53) and the metal powder is, *inter alia*, nickel (column 3, lines 65-67), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder and the total amount of the metal powder (electrically conductive additive) is less than 20 parts by weight (column 4, lines 29-31 and lines 38-43), which provides for a soft magnetic in an amount as presently claimed. It is noted that the amount of the electrically conductive metal powder as taught by Nagano share an endpoint with that presently claimed and that the only deficiency of Nagano et al. is that Nagano et al disclose the use of less

than 20% mass metal powder, while the present claims require 20 to 40% mass conductive additive.

It is apparent, however, that the instantly claimed amount of 20% and that taught by Nagano et al. are so close to each other that the fact pattern is similar to the one in In re Woodruff , 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the amount of metal powder disclosed by Nagano et al. and the amount of the conductive additive disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the amount of conductive additive being less than 20% (see page 75 of the present disclosure), it therefore would have been obvious to one of ordinary skill in the art that the amount of conductive additive disclosed in the present claims is but an obvious variant of the amounts disclosed in Nagano et al, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Nagano references to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further

provide a soft magnetic ferrite in an amount as presently claimed towards a heat dissipating resin coated metal sheet having adequate electric conductivity without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding coatings as in the present invention.

9. **Claims 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claims 7-8, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % (page 25, para 3-8). Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and having an average particle diameter of 5 to 100 nm (page 19, para 4) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase also teaches the integrated emissivity limitations of item (3) of current claim 7 (abstract). Watase is silent to a magnetic powder being permalloy.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of 50 weight % in solids of a Ni-Fe alloy powder in water dispersible polyester (para 0078), said dispersion coated onto inner parts of frames of notebook personal computers and after drying, said coating achieved a film thickness of 30 μm (para 0084-0086). Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005) and a polyester resin serving as a binder (para 0045-0046). Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Hosoe references towards a heat dissipating resin film(s) having excellent magnetic permeability for further use as magnetic shielding coatings as in the present invention.

10. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1) and in further view of Nakao et al (US Patent 5945218). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claims 11-13 , Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 – 50 % (page 25, para 3-8). Watase continues to teach that the coating contains a black additive (page 17, para 4-5). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 3), made of a resin (page 28, para 5) and contains a pigment (page 28, para 5). Watase is silent to a magnetic powder being permalloy, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass%, said pigment is TiO_2, and to the L-value limitations of item (4) of current claim 11.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of 50 weight % in solids of a Ni-Fe alloy powder in water dispersible polyester (para 0078), said dispersion coated onto inner parts of frames of notebook personal computers and after drying, said coating achieved a film thickness of 30 μm (para 0084-0086). Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005) and a polyester resin serving as a binder (para 0045-0046). Hosoe further teaches that

permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029). Watase and Hosoe are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass%, said pigment is TiO_2, and to the L-value limitations of item (4) of current claim 11.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment. It is noted that, since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass% of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (*In re*

Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Hosoe and Nakao references towards a heat dissipating resin film(s) having excellent magnetic permeability for further use as magnetic shielding coatings, wherein the heat dissipating resin film are further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

11. **Claims 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Hosoe et al. (US 2003/0094076 A1) and in further view of Nakao et al (US Patent 5945218). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claims 14-15 , Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni

filler (magnetic powder, magnetic coating film) of from 10 – 50 % (page 25, para 3-8). Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and having an average particle diameter of 5 to 100 nm (page 19, para 4) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5). Watase also teaches the integrated emissivity limitations of item (3) of current claim 14 (abstract). Watase is silent to a magnetic powder being permalloy, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 14.

However, Hosoe teaches alloy products and products applying said powders (title) comprising a dispersion of 50 weight % in solids of a Ni-Fe alloy powder in water dispersible polyester (para 0078), said dispersion coated onto inner parts of frames of notebook personal computers and after drying, said coating achieved a film thickness of 30 μm (para 0084-0086). Hosoe also teaches that the Ni-Fe alloy powder is 80 weight % Ni and 20 weight % Fe, or permalloy, which is well known as a soft magnetic compound further having high conductivity (see also para 0005) and a polyester resin serving as a binder (para 0045-0046). Hosoe further teaches that permalloy has extremely high permeability and is thus favorably used in magnetic shielding materials (para 0029). Watase and Hosoe are silent to a resin coating film containing a white

pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 14.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment. It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (*In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Hosoe and Nakao references towards a heat dissipating resin film(s) having excellent magnetic permeability for further use as magnetic shielding coatings, wherein the heat dissipating resin film are further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

12. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claim 22, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % and that an amount less than 10% results in the effect of the filler not being obtained while an amount above 50% the workability is

diminished (page 25, para 3-8). Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase also teaches the integrated emissivity limitations of item (3) of current claim 22 (abstract). Watase is silent to a magnetic powder being a soft magnetic ferrite powder.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, *inter alia,* polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36). Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, *inter alia*, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase and Nagano reference to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further provide a soft magnetic ferrite towards a heat dissipating resin coated metal sheet having adequate electric conductive without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding coatings as in the present invention.

13. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116) and in further view of Nakao et al. (US Patent 5945218). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claims 23, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % (page 25, para 3-8). Watase continues to teach that the coating contains a black additive (page 17, para 4-5). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5). Watase is silent to a magnetic powder being a soft magnetic ferrite, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (4) of current claim 23.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, *inter alia,* polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36). Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, *inter alia*, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed. Watase and Nagano are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (4) of current claim 23.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment. It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as

presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (*In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Nagano and Nakao references to provide the heat dissipating resin coated metal sheet with a conductive filler in an amount as presently claimed and to further provide a soft magnetic ferrite in an amount as presently claimed towards a heat dissipating resin coated metal sheet having adequate electric conductivity without diminishing the workability of the sheet and providing the sheet with electromagnetic absorbing capabilities for further use as magnetic shielding, and wherein the heat dissipating resin film is further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

14. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (KR 2003-0010506) in view of Nagano et al. (US 5455116) and in further view of Nakao et al.

(US Patent 5945218). The examiner notes that the citations from the ~506 Watase reference were taken from the machine translation, which is included with the current action.

Regarding claim 24, Watase teaches a substrate which is a metal sheet (page 25, para 10) upon which is disposed a heat dissipation coating (heat releasing property) on the inside and outside of the substrate (both surfaces) with a thickness of, *inter alia*, 10 μm (page 17, para 4-5 and page 18, para 8), said heat dissipation coating formed of, *inter alia*, a polyester resin (page 19, para 5). Watase also teaches the coating contains a conductive filler such as, *inter alia*, Ni filler (magnetic powder, magnetic coating film) of from 10 - 50 % (page 25, para 3-8). Watase continues to teach that the coating contains a black additive such as carbon black in an amount greater than 3 % (page 17, para 4-5 and page 18, para 4 and 12) and Al flake (other than carbon black) of from 5 - 30 wt.% (10 % or more) (page 21, para 1). Watase further teaches a double layer film configuration wherein a clear coat is coated on the black film for mitigating the appearance of fingerprints and cracks on or in the black film (page 27, para 8), said clear coat having a thickness of 0.1 to 3.0 μm (page 28, para 2), made of a resin (page 28, para 4) and contains a pigment (page 28, para 5). Watase also teaches the integrated emissivity limitations of item (3) of current claim 24 (abstract). Watase is silent to a magnetic powder being a soft magnetic ferrite, to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 24.

However, Nagano teaches an electromagnetic wave reflection-preventing material (title) comprising a resin layer of, *inter alia,* polyester resin (column 3, lines 23-32), said layer comprising a ferrite and metal powder (column 3, lines 33-36). Nagano also teaches that the ferrites are those conventionally used in an electromagnetic absorber such as, *inter alia*, $MnOFe_2O_3$ (soft magnetic ferrite) (column 3, lines 48-53), wherein the amount of the ferrite and metal powder is 3 to 200 parts per 100 parts of binder, which provides for a soft magnetic in an amount as presently claimed. Watase and Nagano are silent to a resin coating film containing a white pigment and a luster pigment in each of the resin coating films in an amount of 1 to 25 mass% and to the L-value limitations of item (5) of current claim 24.

However, Nakao teaches a process for forming a multilayer film (title) for improved properties such as surface gloss, smoothness, chipping resistance and the like (column 1, lines 8-13) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate (column 1, line 67 and column 2 line 1), said thermosetting resin is a polyester resin (column 3, lines 13-15). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight per 100 parts by weight of the total solid content of the resin composition (column 3, lines 44 – 53), which provides 0.1 to 23 mass % of the metal coated with a white pigment and from 1 to 66 mass % of the titanium dioxide pigment. It is noted that, since the reference teaches a white pigment (i.e. TiO_2) as presently disclosed, and since the thickness of the coating overlaps that as

presently claimed and since the mass % of the metal powder coated with a white pigment and TiO_2 overlap that as presently claimed, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the coating thickness and mass % of the pigmentation compounds for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (*In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a polyester resin coating having L value as presently claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Watase, Nagano and Nakao references towards a heat dissipating resin film(s) having excellent magnetic permeability for further use as magnetic shielding coatings, wherein the heat dissipating resin film are further coated with a resin coating towards a metal sheet with a resin layer with thermal radiative properties, and an additional white resinous coating coated thereon to impart to the metal sheet a surface gloss, smoothness, chipping resistance and the like as in the present invention.

Response to Arguments

15. Applicant's arguments, see pages 13-14, filed 8/27/2009 with respect to rejection of claims 1, 5, 7, 11 and 14 under 35 U.S.C. 103(a) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK D. DUCHENEAUX whose telephone number is (571)270-7053. The examiner can normally be reached on M-Th, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie E. Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. D. D./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794